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54 **Metal halide discharge lamp suitable for an optical light source.**

57 A metal halide discharge lamp (10) operated from a D.C. power source (28), which is suitable for an optical light source (5), has a quartz arc tube (16). Anode (18a) and cathode (18b) electrodes are disposed in the arc tube (16). A gap length (L) between electrodes (18a, 18b) is so short that the metal halide discharge lamp (10) is capable to function as a point light source. The arc tube (16) contains an inert gas, mercury and metal halide additives including metal bromine. By utilizing the cataphoresis effects, the transformation of silica (SiO₂) of the arc tube in cristobalite or the formation of an opaque substance on the arc tube is prevented. Atomic ratio of bromine to halogen contained in the arc tube is about 60% to 90% and the wall load developed in the arc tube is substantially greater than 40 W/cm².

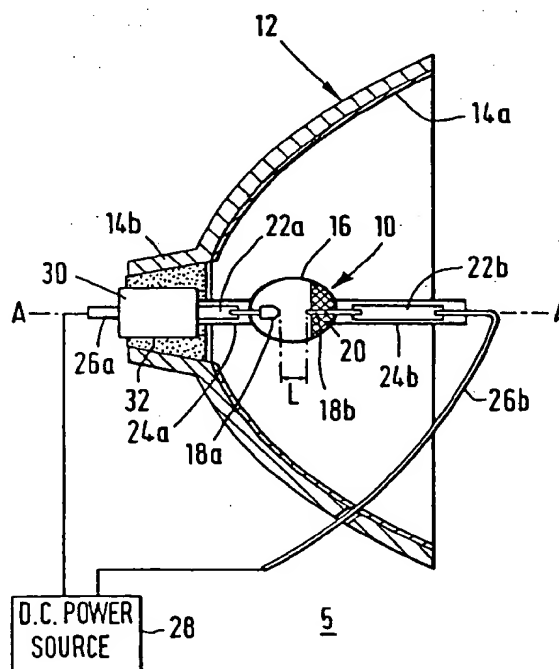


FIG.1.

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EUROPEAN SEARCH REPORT

Application Number
EP 93 31 0584

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CLS)
X A	US-A-4 686 419 (BLOCK WERNER ET AL) 11 August 1987 * abstract; figures 1,3 * * column 1, line 12 - line 17 * * column 1, line 42 - line 43 * * column 1, line 48 - line 49 * * column 2, line 56 - line 59 * * column 3, line 60 * * column 4, line 45 * ---	1,4,7-9, 12 2,3,5,6, 10,11, 13-15	H01J61/82 H01J61/12 H04N9/31 F21M1/00 H01J61/86
X,P Y,P A,P	US-A-5 192 891 (MATSUURA ATSUSHI ET AL) 9 March 1993 * abstract; claims 7,12 * * column 2, line 59 - line 60 * * column 3, line 33 - line 34 * * column 4, line 6 * * column 5, line 16 * * column 6, line 30 - line 34 * ---	1-3 1-8, 11-15 9,10	TECHNICAL FIELDS SEARCHED (Int.CLS) H01J
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 27 June 1995	Examiner Martín Vicente, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background U : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document			

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Application Number
EP 93 31 0584

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Y	US-A-3 566 178 (MORI LEO ET AL) 23 February 1971 * abstract *	1,4,6,8, 11,14 2,3,5,7, 10,12, 13,15	
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<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			

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